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ABSTRACT

This document discusses the Collegiate Assessment of Academic Proficiency (CAAP) and ASSET (developed for student advising, placement, and retention) tests that were conducted by Mid-Plains Community College Area (MPCCA) (Nebraska) on 190 students in April 2001. The purpose of the testing was to gather as many matched pairs of ASSET/CAAP scores for reading, writing, and math as possible. Matched scores made it possible to measure student intellectual growth between points of entry and exit from the institution. Out of the 190 students, 45 pairs were matched for math, 89 pairs for reading, and 91 pairs for writing. Results for reading ability growth showed that 12% of MPCCA students had lower-than-expected gains, 81% had expected gains, and 7% exceeded expected gains. Results for writing ability growth showed that 4% had lower-than-expected gains, 77% had expected gains, and 19% exceeded expected gains. Results for math ability growth showed that 16% had lower-than-expected gains, 75.5 % had expected gains, and 8.5% exceeded expected gains. This document concludes that the CAAP test requires greater knowledge and more complex skills than the ASSET test does. Overall, according to a combined percentage of students who achieved expected or higher-than-expected gains, the greatest intellectual growth could be seen in writing (with a combined percentage of 96%), followed by reading and math at 88% and 84%, respectively. (CJW)

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ED 457 900

ACT COLLEGIATE ASSESSMENT OF ACADEMIC PROFICIENCY

CAAP

STUDENT COHORT

GROWTH REPORT

Report completed by

Ford M. Craig, Ed. D.

MPCCA Director of Institutional Research

Date of Testing:

April 2001

Date of Reporting:

October 2001

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Office of Educational Research and Improvement
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Part 1

Introduction

During the late 1980's and early 1990's ACT and 127 institutions (primarily community colleges) established and worked together on a (Partners in Progress Research Project.) This was an effort to accumulate enough matched pairs of ASSET reading, writing, and math scores (incoming student placement test) and CAAP reading, writing, and math scores (exiting student outcomes test) to (1) fine tune the content of the related exams, (2) established the degree of statistical relationship between the exams so that, (3) student intellectual growth might be measured between the student's point of entry and the point of exit from the institution. The project actually took ACT substantially longer to complete because of the difficulty in collecting enough paired scores to establish stable statistical relationships. However, by fall 1994, ACT was able to deliver longitudinal results, one set of which went to Western Nebraska Community College – a participant in the Partners Project.

MPCCA and the CAAP

MPCCA administered the CAAP test during April of 2001 to 190 students from across the Area. ACT was able to identify ASSET scores for some but not all of the 190 students. That is, for each student who took the CAAP writing test, a search was conducted to identify that student's entering ASSET writing scores. For the CAAP math test, there were 45 matched pairs, for the CAAP reading test there were 89 matched pairs, and for the CAAP writing test there were 91 matched pairs.

ASSET/CAAP Cohort Results

Several Items are worth noting as one views the cohort results:

1. ASSET scaled scores are reported on a point range from 23-55;
   CAAP scaled scores are reported on a point range from 40 through 80.

2. In order for ACT to establish a meaningful relationship between the two tests (and to report the results in an understandable manner) they have constructed decile (percentages) categories for each test scale. At the present time, decile categories are based upon a national reference group made up of two-year colleges.

3. ACT maintains that for an institution's results to be useful – there should be 100 ASSET/CAAP matched student records. For this years testing, the writing and reading results provide useful reasonably stable data. This is less so with the math results because of the lower number of matched pairs.

ASSET/CAAP Reading Test Cohort Results

Figure 1 is a visual representation of MPCCA's ASSET/CAAP reading results for the 89 students. (Note: a full copy of the ASSET/CAAP reading test results is available in the Research Office.)

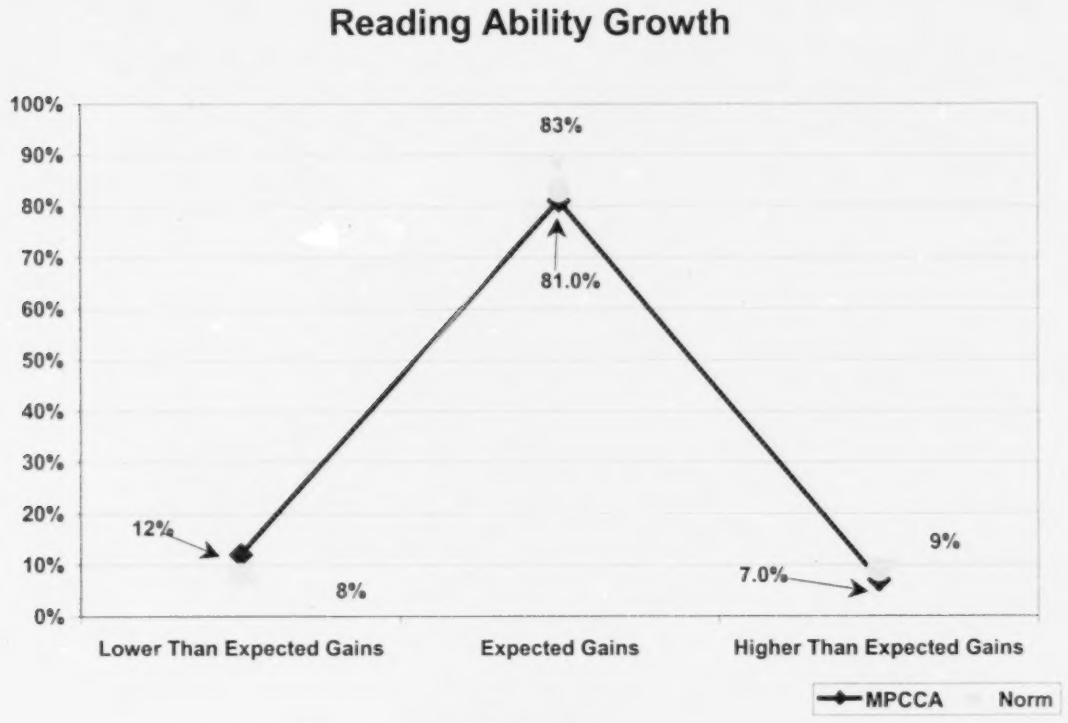

Figure 1

Percentage of Spring 2001 MPCCA Students With Matched ASSET and CAAP Reading Scores Who Made Higher Than Expected Gains, Expected Gains, and Lower Than Expected Gains. (Normative Comparison Provided)

There were 89 MPCCA students who took the ASSET reading test at entry and completed the CAAP reading test at exit: (1) 12 percent or eleven students (N = 11) had a lower than expected intellectual gains in reading, (2) 81 percent or seventy-two students (N = 72) achieved expected gains, and (3) 7 percent or six students (N = 6) achieved greater than expected intellectual gains.

When the public, two-year college, respective normative percentages are examined – (1) 8 percent reflected lower than expected gains, (2) 83 percent had expected gains, and (3) 9 percent had higher than expected gains.

ASSET/CAAP Writing Test Cohort Results

Figure 2 is a graph which contains percentage results of the ASSET/CAAP writing outcomes for 91 MPCCA students. (A full copy of the ASSET/CAAP writing test results is available in the Research Office.)

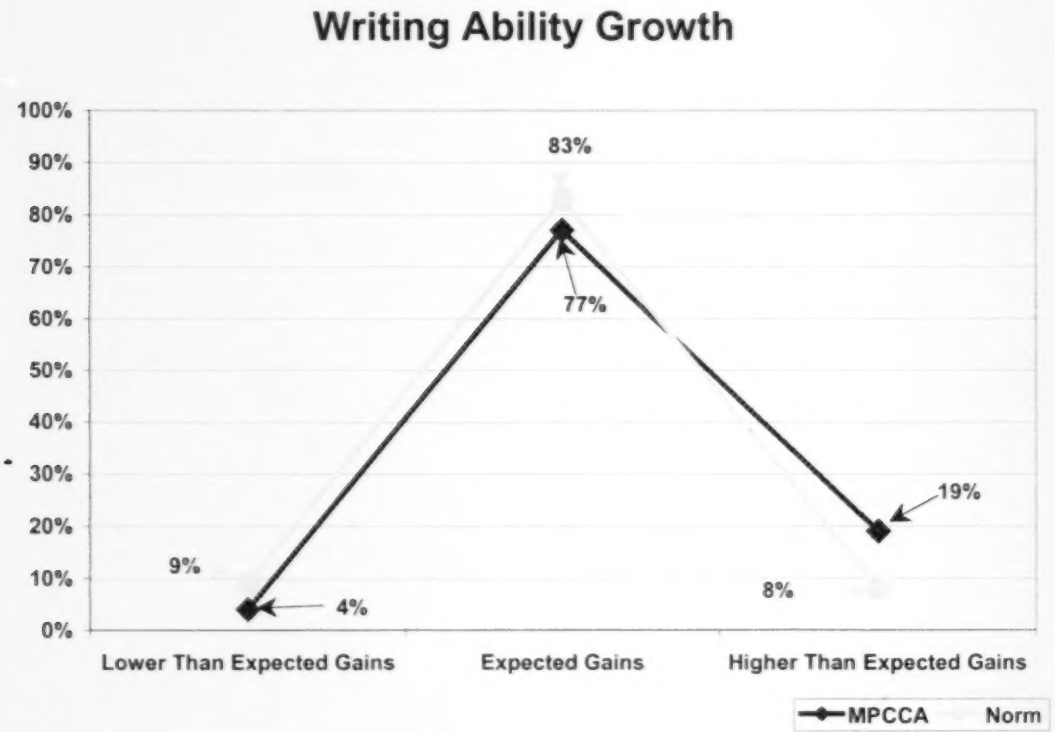

Figure 2

Percentage of Spring 2001 MPCCA Students With Matched ASSET and CAAP/Writing Test Scores Who Made Higher Than Expected Gains, Expected Gains, and Lower Than Expected Gains. (Normative Comparison Included)

For the 91 MPCCA students who took ASSET writing tests at entry and completed the CAAP writing test at exit (1) 4 percent or four students (N = 4) reflected lower than expected intellectual gains, (2) 77 percent or seventy students (N = 70) achieved expected gains, (3) 19 percent or seventeen students (N = 17) reflected higher than expected gains.

For the aforementioned group, the public, two-year college, respective normative percentages were as follows (1) 9 percent had lower than expected intellectual gains (2) 83 percent had expected gains, and (3) 8 percent had higher than expected gains.

ASSET/CAAP Mathematics Test Cohort Results

Figure 3 is a second graph which contains percentage results of the ASSET/CAAP Math Outcomes for 45 MPCCA Students. (A full copy of the ASSET/CAAP math test results is available in the Research Office.)

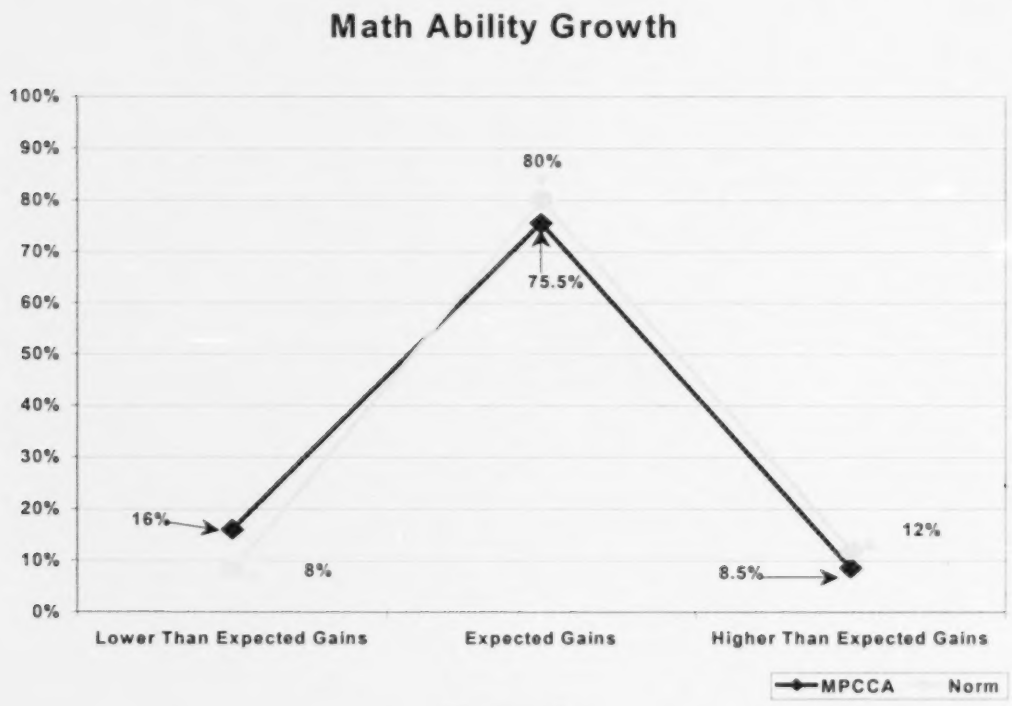

Figure 3

Percentage of Spring 2001 MPCCA Students With Matched ASSET and CAAP/Math Test Scores Who Made Higher Than Expected Gains, Expected Gains, and Lower Than Expected Gains. (Normative Comparison Included)

There were 45 matched ASSET/CAAP scores in area of math for MPCCA students. Results were as follows: (1) 16 percent or seven students (N = 7) had lower than expected intellectual gains, (2) 75.5 percent or thirty-four students (N = 34) achieved expected gains, and (3) 8.5 percent or four students (N = 4) reflected higher than expected gains.

The public, two year college, normative percentages were (1) 8 percent – lower than expected gains; (2) 80 percent – expected gains; (3) 12 percent – higher than expected gains.

SUMMARY COMMENTS

1. Important comments offered by the statisticians at ACT are as follows:

   a The CAAP test requires greater knowledge and more complex cognitive skills than the ASSET test. Students scoring at the same "level" on the ASSET and CAAP must have increased their knowledge and skills.

   b. The reference group percentages have been adjusted to reflect the same ASSET distribution as MPCCA's cohort. This is needed because if, for example, students in MPCCA's cohort had much higher ASSET scores than the reference group, their overall gains would be less because they had less to gain.

2. On an **Area-wide** basis, when viewing the results according to a combined percentage of those students who achieved expected gains, and higher than expected gains, students reflect greatest "talent development" or intellectual growth in (ranked order) (1) writing – combined percentage was 96%; (2) reading – combined percentage was 88%; and (3) math – combined percentage was 84%. **The respective normative numbers were (1) writing – 91%; (2) reading - 92%; and (3) math – 92%.**

ACT COLLEGIATE ASSESSMENT OF ACADEMIC PROFICIENCY (CAAP)

Report Completed by

Ford M. Craig, Ed.D.

MPCCA Director of Institutional Research

Date Testing:

April 2001

Date of Report:

Summer 2001

Part 1

Timetable of Events/Action Related to MPCCA CAAP Testing

April 23, 1992	MPCCA Assessment Task Force holds its first meeting.
February 24, 1994	A special subcommittee of MPCCA Assessment Task Force is established to review outcomes tests, select one, and recommend it to the Assessment Task Force.
September 22,1994	After considerable information gathering, heated discussion, and numerous meetings, the MPCCA Assessment Task Force unanimously Approves ACT's CAAP instrument.
November 16,1994	MPCCA Board Adopts Assessment Plan.
December 6, 1994	A second subcommittee of the Assessment Task Force is established to implement the ACT CAAP test. The committee membership consists of Ford Craig as chairperson, Dr. John Rucker and Dr. Jo Keeler from MCC, Mr. Bill Eakins and Mr. Bruce Dowse from Voc-Tech, and Ms. Janis Ridnour and Dr. Darrel Hildebrand from MPCC – McDonald-Belton.
January 25, 1995	The first meeting of the subcommittee is held to begin work on seventeen page CAAP Planning Form that must be completed and approved by ACT before the test is administered.
February 16, 1995	The full MPCCA Assessment Task Force Meets and passes a motion: "Beginning in Spring 1997, all students on a degree track with over forty (40) hours completed at the end of the previous Fall Semester will be required to take a CAAP." Until 1997, testing will be encouraged but not mandated.
February 22, 1995	Special CAAP subcommittee meets again and completes the CAAP Planning Form. Also, the committee members develop procedures for administering the CAAP test in the time between April 18 and April 30, 1995. Approximately, 250 students are identified as potential test-takers.

April 1995: CAAP reading, writing, and math tests are given, and eighty-two students complete the tests.

February 1, 1996 Director of Institutional Research, Deans and Counselors meet and organize for CAAP testing to be completed in April of 1996. The process is still not mandatory for students at this point.

April 1996: CAAP reading, writing, and math tests are given, and 102 **MPCCA** students complete the tests.

April 1997: CAAP reading, writing, and math tests are given, and 234 MPCCA students complete the tests.

April 1998: CAAP math, writing, and critical thinking tests are given, and 233 students complete the test per the following schedule:

April 1999: CAAP reading, writing, and math tests are given, and 244 Area students complete the tests.

April 2000: CAAP writing, critical thinking, and science reasoning, and 197 Area students completed the tests.

April 2001 CAAP reading, writing, and math tests are given, and 190 area students complete the tests.

Location	**Dates**	**Total Number taking test**	**%**
MCC	April 9 – April 20	84	44.2
Mc-Belton	April 9 – April 20	78	41.1
Voc-Tech	April 9 – April 20	28	14.7
Area Total		**190**	**100.0**

Part II

MPCCA – Area-Wide
Institutional Summary Report
MPCCA Student Demographic Characteristics
of Those Who Took the Test

A. and B. **Asked for the student's name.**

C. **Asked for the student's Social Security Number**

D. **Special Codes ACT USE ONLY**

E. **Sex**

	MPCCA	Norm
Female	71.1	65.3
Male	28.9	34.3
No Response	0.0	0.4
Total	**100.0**	**100.0**

F. **Age**

	MPCCA	Not Available
18 and under	0.0	
19 – 20	59.5	
21 – 25	21.1	
26 – 30	4.2	
31 – 39	9.5	
40 and older	5.8	
No Response	0.0	
Total	**100.1**	

G. **Racial/Ethnic Group (expressed as percentage)**

	MPCCA	Norm
Black/Afro-American	1.1	7.6
American Indian/Alaskan Nat.	0.0	2.1
White/Caucasian	93.7	80.6
Mexican-American/Chicano	1.6	1.8
Asian/Pacific Islander	0.0	1.1
Puerto Rican/Cuban Hispanic	0.0	0.8
Filipino	0.5	0.2
Other	0.0	0.8
Prefer not respond	2.1	3.2
No Response	1.1	1.8
Total	**100.1**	**100.0**

H. **Is English Your First (Primary) Language: (%)**

	MPCCA	Not Available
Yes	97.9	
No	2.1	
Blank	0.0	
Total	**100.0**	

I. **What is your Education Level. (%)**

Freshman	0.0
Sophomore	91.6
Junior	4.2
Senior	2.6
Other	1.1
No Response	0.5
Total	100.0

J. **What is Your Cumulative Grade Point Average? (Expressed as percentage)**

	MPCCA	**Not Available**
Below 2.00	0.5	
2.01 – 2.50	12.6	
2.51 – 3.00	19.5	
3.01 – 3.50	35.3	
3.51 & above	31.6	
No Response	0.5	
Total	**100.0**	

K. **Are You a Full-time Student? (expressed as percentage)**

	MPCCA	**Norm**
Yes	88.4	78.7
No	11.1	21.0
No Response	0.5	0.3
Total	**100.0**	**100.0**

L. **Did you enroll at This College/University as a freshman? (expressed as percentage**

	MPCCA	**Norm**
Yes	92.1	85.4
No	7.4	14.2
No Response	0.5	0.4
Total	**100.0**	**100.0**

M. What are you Educational Plans for Next Year?

	MPCCA	Norm
Return to this school	7.4	20.0
Transfer to a different school	46.3	53.2
Other	45.3	26.0
No Response	1.1	0.7
Total	**100.1**	**99.9**

N. Asked about Educational Major. (expressed as percentage)

	MPCCA
Undecided	4.7
Agriculture	2.1
Architecture	1.1
Biological Science	1.1
Business	21.6
Office Management	6.3
Marketing & Purchasing	0.5
Communications	1.6
Community Services	3.7
Computer and Info Sciences	3.7
General Studies	1.6
Education	11.6
Engineering	1.1
Fine and Applied Arts	2.6
Foreign Language	0.0
Health Professions	19.5
Home Economics	4.2
Letters	0.0
Mathematics	0.0
Philosophy/Religion	0.0
Physical Science†	0.5
Social Science†	4.2
Trade and Industrial	5.8
No Response	2.6
Total	**100.1**

O. How Hard Did You Try to Do Your Best Work as You completed each of the CAAP Tests.

	MPCCA	Not Available
Writing Skills Test		
Tried My Best	66.3	
Gave Moderate Effort	26.9	
Gave Little Effort	5.8	
Gave No Effort	1.1	
Blank	0.0	
Total	**100.1**	

	MPCCA	Not Available
Mathematics Test		
Tried My Best	36.3	
Gave Moderate Effort	33.2	
Gave Little Effort	25.3	
Gave No Effort	5.3	
Blank	0.0	
Total	**100.1**	

	MPCCA	Not Available
Reading Test		
Tried My Best	40.5	
Gave Moderate Effort	37.9	
Gave Little Effort	12.1	
Gave No Effort	8.4	
Blank	1.1	
Total	**100.0**	

Part III

MPCCA Area-Wide CAAP Test Results

The 190 MPCCA students who took the three CAAP exams spent forty minutes per exam. The **writing skills exam** contained seventy-two (72) items intended to measure conventions of standard written English, including punctuation, grammar, sentence structure, strategy, organization and style. A second test, the **math assessment** contained thirty-five (35) items designed to test students' quantitative reasoning ability and included pre-elementary, intermediate, advanced algebra, geometry, trigonometry, and introductory calculus. The **reading test** contained thirty-six (36) items and was designed to measure reading comprehension including referring, reasoning, and generalizing.

Level 1 – Reading

The following section presents grouped results of the spring 2001 MPCCA CAAP testing. Table 1 contains CAAP **total test** scaled scores (scaled scores range from **40 – 80** on the total test) for Writing Skills, Mathematics, and Reading.

Table 1

Comparison of MPCCA, CAAP, Total Test Mean Scores and Normative Averages: Spring 2001

Total Test Type	MPCCA	Norm
Writing Skills	63.9	62.6
Mathematics	55.9	56.3
Reading	59.9	61.0

Report n-count: 190

In the **writing skills exam,** the 190 MPCCA students (as a group) established an average score that was above the normative mean for public two year college sophomores. The same 190 students performed slightly below the mean on the **math test**, and this was also the case on the reading test.

Level 2 Test Sub-scores

In Table 2, CAAP sub-scores are presented; the sub-score range is from **5 – 25**. The CAAP writing test contains two subdivisions, **usage/mechanics** and **rhetorical skills.** (2) the CAAP mathematics test has **algebra** sub-scores; and the CAAP reading test has **arts/literature** and **social science** sub-scores.

Table 2

Comparison of MPCCA, CAAP Sub-score Means and Related Norms: Spring 2001

Test Subsets	MPCCA	Norm
Writing Test		
Subtest: Usage/Mechanics	16.8	16.3
Sub-test: Rhetorical Skills	17.1	16.3
Mathematics		
Sub-test: Algebra	13.7	14.0
Reading		
Sub-test: Arts/Literature	14.7	15.3
Sub-test: Social Sciences	15.2	15.6

***Report n-count: 190**

As might be expected based upon the results presented in Table 1, the MPCCA student sub-scores contained in Table 2 show only slight variations when compared with the relevant norm.

Observations and Comments:

1. For this administration of the CAAP, the MPCCA results were influenced by MPCC McDonald-Belton and MCC since 85.3% of the test-takers came from these locations.

2. The male/female ratio of test takers was closer to the normative ratio for this year's set of test results..

3. There was a higher-than-norm percentage of MPCCA **full-time** students who took the tests.

4. The 190 MPCCA students performed slightly above the user norm on the writing test and slightly below the norm on the reading and math tests. Using a test of significance developed by ACT, the degree to which MPCCA students were above or below the norm was not significant. Such variation could be attributed to chance alone.

Appendix A

Local Executive Summary for _____

McDonald-Belton
McCook
Voc-Tech

Executive Summary of CAAP Results

Test Result from MPCCA McDonald-Belton Campus

POPULATION DEMOGRAPHICS

Number students tested: 77

Gender: Male = 29% Female = 71%

Ethnicity: Caucasian = 93% Minorities = 7%

Age: 20 and under = 48%; 21-25 = 29% 26 and over = 23%

Enrolled as freshmen: 91%

Education Level: Freshman = 0%; Sophomores = 96%; Juniors = 3%; Seniors = 1% Other = 0% Blank = 0%

Status: Full-time = 95%; Part-time = 4%

GPA: Below 2.0 = 0%; 2.01 - 2.5 = 15.6%; 2.51 - 3.0 = 27.3%; 3.01 - 3.5 = 35.1%; 3.51 and above = 20.8% blank = 1.3%

PERFORMANCE RESULTS											
TESTS	LOCAL		NATIONAL		MOTIVATION %* (mean)			STUDENTS @			
	Mean	Sd	Mean	Sd	Tried best	Gave moderate	Little/ no effort	1st Quarter**	2nd Quarter	3rd Quarter	4th Quarter
Writing Skills	63.2	4.4	62.6	4.7	(64) 66.2%	(63) 24.7%	(57) 9.1%	16.9%	24.7%	28.6%	29.9%
Mathematics	55.3	3.4	56.3	3.6	(56) 41.6%	(57) 32.5%	(53) 26.0%	31.2%	15.6%	28.6%	24.7%
Reading	59.8	6.4	61.0	5.3	(62) 40.3%	(61) 36.4%	(53) 23.4%	31.2%	23.4%	23.4%	22.1%
Critical Thinking					( ) %	( ) %	( ) %	%	%	%	%
Science Reasoning					( ) %	( ) %	( ) %	%	%	%	%

Test Result from MPCCA McCook Campus

POPULATION DEMOGRAPHICS

Number students tested: 84

Gender: Male = 31% Female = 69%

Ethnicity: Caucasian = 99% Minorities = 1%

Age: 20 and under = 83%; 21-25 = 7% 26 and over = 10%

Enrolled as freshmen: 96%

Education Level: Freshman = 0%; Sophomores = 95%; Juniors = 2%; Seniors = 0% Other = 1% Blank = 1%

Status: Full-time = 93%; Part-time = 7%

GPA: Below 2.0 = 1.2%; 2.01 - 2.5 = 6%; 2.51 - 3.0 = 10.7%; 3.01 - 3.5 = 35.7%; 3.51 and above = 46.4% blank = 0%

PERFORMANCE RESULTS											
TESTS	LOCAL		NATIONAL		MOTIVATION %* (mean)			STUDENTS @			
	Mean	Sd	Mean	Sd	Tried best	Gave moderate	Little/ no effort	1st Quarter**	2nd Quarter	3rd Quarter	4th Quarter
Writing Skills	64.5	4.2	62.6	4.7	(65) 65.5%	(64) 29.8%	( ) 4.8%	11.9%	15.5%	23.8%	48.8%
Mathematics	57.1	3.7	56.3	3.6	(58) 32.1%	(57) 34.6%	(56) 33.3%	19.0%	8.3%	26.2%	46.4%
Reading	59.3	5.9	61.0	5.3	(62) 39.8%	(59) 37.3%	(53) 21.7%	41.0%	13.3%	22.9%	22.9%
Critical Thinking					( ) %	( ) %	( ) %	%	%	%	%
Science Reasoning					( ) %	( ) %	( ) %	%	%	%	%

Test Result from MPCCA Voc-Tech Campus

POPULATION DEMOGRAPHICS

Number students tested: 27

Gender: Male = 26% Female = 74%

Ethnicity: Caucasian = 100% Minorities = 0%

Age: 20 and under = 22%; 21-25 = 44% 26 and over = 33%

Enrolled as freshmen: 85%

Education Level: Freshman = 0%; Sophomores = 70%; Juniors = 15%; Seniors = 11% Other = 4% Blank = 0%

Status: Full-time = 67%; Part-time = 33%

GPA: Below 2.0 = 0%; 2.01 - 2.5 = 26%; 2.51 - 3.0 = 26%; 3.01 - 3.5 = 30%; 3.51 and above = 18% blank = 0%

PERFORMANCE RESULTS											
TESTS	LOCAL		NATIONAL		MOTIVATION %* (mean)			STUDENTS @			
	Mean	Sd	Mean	Sd	Tried best	Gave moderate	Little/ no effort	1st Quarter**	2nd Quarter	3rd Quarter	4th Quarter
Writing Skills	64.0	4.6	62.6	4.7	(65) 70.4%	(63) 22.2%	( ) 7.4%	14.8%	11.1%	33.3%	40.7%
Mathematics	54.2	3.3	56.3	3.6	(55) 37.0%	(54) 25.9%	(53) 37.0%	29.6%	40.7%	14.8%	14.8%
Reading	61.4	5.4	61.0	5.3	(63) 44.4%	(62) 44.4%	( ) 11.1%	18.5%	22.2%	25.9%	33.3%
Critical Thinking					( ) %	( ) %	( ) %	%	%	%	%
Science Reasoning					( ) %	( ) %	( ) %	%	%	%	%